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POLITICAL INVESTMENT AND CLASSIFICATION INFLUENCE OF THE INDUSTRIAL SECTOR IN ECONOMIC VALUE ADDED (EVA)

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Abstract

While the financial ratios focus on a relative analysis of various figures in the financial statements, to then analyze them altogether (an individual analysis of ratios provides non-existent information), EVA is aimed to measure and/or evaluate the contributions of money invested by the shareholders in the company.

This study determines the existing relationship between EVA of companies in Chile and the economic sector that they represent, as well as the influence that the investment policy has in the creation or destruction of value, all between 2010 and 2013.

Companies whose main activity is to cover basic services for the population and companies that administer the resources that will be part of pensions present the best levels of value creation.

On the other hand, those companies who are in the industrial, retail or transportation business present value destruction, mainly given by the high capital these types of companies require through an expansive investment policy.

Keywords : Economic value added, performance, return, cost of capital.

Introduction

Among the methods of business valuation, the Economic Value Added (EVA) has acquired greater importance in international markets.

EVA corresponds to the so-called metrics based on the value. They became popular (as many other financial metrics) by the consulting company Stern Stewart& co.

In simple terms, if the return is greater than the cost of invested capital, there will be value, and if the return is less than the cost of invested

capital, the company will decrease its value, i.e., it is the result of the difference between the profitability of its assets and the cost of financing or capital required to own such assets.

In other words, EVA is the result once all the expenses have been covered as well as the minimum return expected by the shareholders based on the resources used by a company or strategic business unit that should produce a return greater than its costs because otherwise, it is better to move the capital assets used to another line of business.

Aims

General Aim:

- Determine the economic value added of firms in Chile or their value destruction during the period from 2010 to 2013.

Specific Aims:

- Observe the relationship between economic value added and economic sector of business development.
- -Establish economic value added by adjusting the size according to market capitalization.
- Relate investment policy with added value.

Theoretical Framework

EVA Model

Every company has different economic-financial aims. The most important aims are indicated below:

1. Increase the value of the company and, therefore, the wealth of the owners. This objective includes the following goals:

Get the maximum profit with the minimum investment from the shareholders.

Achieve the minimum cost of capital.

2. Work with minimal risk. To reach this goal, we must achieve the following:

Balanced ratio between debt and investment of the owners.

Balanced ratio between short-term and long term financial obligations.

Coverage of different risks: exchange, credit and market interests.

3. Optimum levels of liquidity available. To reach this goal, we must achieve the following:

Adequate financing of current assets.

Collection and payments equilibrium.

Objective Measurement of Value Creation:

The aim of a measurement process of value creation of a company involves:

a) Ensure that the utility or wealth generated in the company is large enough to cover the expenses of all financing sources of the resources invested in the business.

b) Provide a meter to senior management, management and all levels of the organization to ensure that all areas and business units help create value for the company.

c) Support the development of executive compensation schemes, which seeks to link the bonus of the executives with the performance of the company. In other words, that the "carrot equity" of the executive is exactly what interests the shareholders, i.e. value creation in the company which should lead to an increase in the price of the stock. "

Economic Value Added basic elements

To measure value creation in a company you need to consider three basic concepts:

* Capital employed
* Cost of capital
* Net operating incomeafter tax

Capital employed

The capital employed (CE) is defined as the total assets (TA) minus current liabilities.

The concept of capital employed is based on two basic ideas. First, any investment in the asset involves a cost. Since it is financing itself, it could be done either by shareholder resources (equity) or external sources (liability). These two ways of financing include a cost, therefore the assets should be able to pay off the cost. On the other hand, we could say that their profit should be able to pay the costs of capital employed financing rather than the total assets since the cost of current liabilities are included in cost of sales and/or operating expenses which are subtracted to calculate the profit.

By sayng that current liabilities are subtracted from the total assets, it means that they do not pay an explicit or a quantifiable cost. Current liabilities are the bills or short term debt, accounts payable, etc a company has. Supplier financing involves a cost, as well as any other source of financing, but this cost is normally included in the purchase price of the product. When requesting a supplier credit, this will increase the prices. If this is not possible, then the company will lower the quality, reduce the service or simply begins to look for another customer that pays better. All of this involves a real cost, but not an explicit one. If we consider a bank loan instead of supplier financing, the operating income would be higher since the supplier would give us a better price for paying in advance. This would decrease the debt, however, we would then have to subtract the financial cost

of interests which the thing-in-itself is an explicit cost. Accrued expenses, such as provisions, deductions, taxes payable, do not include a cost or it is difficult to determine.

The liabilities that have an explicit cost are those that involve an interest payment. They are in the statement income within the comprehensive financial cost (CFC). However, this does not imply that this is the only liability that will be a cost for the company.

For these purposes, the current liabilities will consist of bank and financial institutions obligations and short-term and long-term public obligations.It is worth commenting that the equity does not have an explicit cost either, i.e. the cost of each source of financing with resources from the shareholder is not clear. However, it includes a real cost that must be estimated and considered for value creation.

Capital Employed

Alternative 1

Capital Employed: Total Asset – Short-term and long-term current liabilities (1)

Alternative 2

Capital Employed: Short-term and long-term current liabilities + Equity (2)

Cost of capital

The cost of capital is the weighted average of the company's cost of capital. The full name of cost of capital is the weighted average cost of capital (WACC).

The cost of capital is based on two main elements: the determination of the cost of each source of financing and the WACC. For example, if the annual liability costs 20% and the annual shareholder (equity) resources cost 30% and 60% of financing is through income and 40% is through shareholders, the cost of capital would be 24% ((20% * 0.6) (30% * 0.4)).

Eventhough calculating the cost of capital seems simple, it is difficult to quantify the rates that represent the cost of each source of financing. On the other hand, the volatility of rates makes it even more difficult to determine an appropriate value for the valuation.

Net operating income after taxes (NOIAT)

The net operating income after taxes would be, in simple words, the operating income (making sure that it is the liability generated only by the continuous operation of the company) minus the taxes that correspond to this income (tax adjusted).

The financial expenses and any income or expenditure related to the operation of the business are not taken into account in the net operating income after taxes (NOIAT).. This is why other incomes and expenses are

eliminated, e.i., it is the profit generated by the company before any source of financing costs.

The net operating income (NOI) is affected by taxes that only have to do with this type of income. The NOI is equivalent to what in English is known as EBIT (earnings before interest and taxes).

CALCULATION OF EVA

It is the difference between the net obtained by the normal operations of the company and the weighted verage cost of capital:

EVA = NOIAT - (K* x Capital Employed) (3**)**

Where:

NOIAT = Net operating income after taxes and before financial expenses.

NOIAT = NOI x (1 - t)

Capital = it is a measure of all the cash that has been deposited in a company, regardless of the source of financing, accounting name or business purpose, it is as if the company was simply a savings account. It is not an issue if the investment is financed by capital or debt, or if the cash is employed in fixed assets or working capital.

The capital employed can be calculated by adding all debts (long- and short-term) to equity. An alternative form is subtracting, from the total assets, all current liabilities that do not pay interest. . ("The Quest For Value")

K* = Weighted verage cost of capital.

K* =(Ki x Total Debt/ Debt + Equity) + (Ke x Equity/ Debt + Equity) (4)

Where:

Ki = Cost obligations with third parties, such as financial institutions, banks, etc.

Ki = i x (1-t) i = (Financial expenses / Liability affected by interest) (5)

Ke = Cost of capital, e.i., return expected by shareholders.

A methodology for the Ke is the model CAPM (Capital Asset Pricing Model) developed by William Sharpe:

Ri = Rf + (Rm-Rf) x B (6)

Where:

Ri = Expected return on the capital asset.

Rf = Risk free rate.

Rm = Expected market return.

B = Sensitivity of the expected excess asset returns to the expected excess market returns.

Methodology

By using audited and consolidated financial statements, taken from certified and paid data base from 2010 to 2013, we are able to determine

EVA of all the publicly held companies who buy securities that are traded publicly in the stock exchange market of Santiago (Chile)

Scope Limitations

- All the publicly held companies willbe considered, with the exception of banks and financial institutions since their financial statements differ with respect to other companies.
- The financial statements included in the study are since 2010, because from that year on the corporations in Chile have presented their financial statements under international financial reporting standards (IFRS).

Results

1. Greater economic valued added (10 first companies) :

Name	Sector	EVA
Aguas	Basic Services	$ 111,084,369
Iam	Basic Services	$ 104,071,508
Pehuenche	Power Company	$ 22,379,643
Esval	Basic Services	$ 15,937,909
Provida	Funds	$ 15,678,741
Cuprum	Funds	$ 13,722,819
Ventanas	Transport Services	$ 11,299,375
Fasa	Commerce	$ 11,265,862
Habitat	Funds	$ 9,470,507
Banmedica	Health	$ 7,443,225

From the perspectiva of management of economic value added, the best results were from basic services companies (electricity, water, gas) and pension fund administrators (investment management corporations of individual retirement contributions)

2. Economic value destruction: (10 first companies)

Name	Sector	EVA
Quinenco	Funds	-$ 1,104,846,295
Cmpc	Paper and pulp	-$ 266,074,621
Lan Chile	Transport Services	-$ 249,046,603
Enersis	Power Company	-$ 245,930,384
Cencosud	Commerce	-$ 212,620,351
Falabella	Commerce	-$ 175,079,468
Copec	Oil and Gas	-$ 150,598,550
Minera	Funds	-$ 84,296,380
Vapores	Transport Services	-$ 77,149,038
Endesa	Power Company	-$ 69,476,426

The greatest value destruction (negative EVA) occurs in industrial, pulp, power, retail, and air and maritime transport companies.

3. Greater economic value added, adjusted by size according to market capitalization: (10 first companies)

Name	Sector	EVA	% of adjustment	EVA ADJUSTED
Antarchile	Finance and Insurance	$ 173,388,031	0.031	$ 5,340,596
Aguas	Basic Services	$ 111,084,369	0.020	$ 2,208,213
Iam	Basic Services	$ 104,071,508	0.008	$ 858,954
Pehuenche	Power Company	$ 22,379,643	0.020	$ 449,522
Provida	Funds	$ 15,678,741	0.010	$ 159,657
Cuprum	Funds	$ 13,722,819	0.006	$ 82,656
Entel	Telecommunications	$ 4,445,318	0.015	$ 66,355
Habitat	Funds	$ 9,470,507	0.007	$ 61,871
Banmedica	Health	$ 7,443,225	0.007	$ 49,162
Enaex	Chemistry	$ 5,071,954	0.006	$ 32,090

Adjusted by size, this is in relation to the market capitalization of the companies at the time of the analysis, the results are not altered, where the highest levels of value added are shown by service companies.

4) Greater economic value added, adjusted by size according to market capitalization:: (10 first companies)

Name	Sector	EVA	% of adjustment	EVA ADJUSTED
Sqm	Mining	$ (36,537,339)	0.041	$ (1,485,211)
Minera	Funds	$ (84,296,380)	0.018	$ (1,554,031)
Endesa	Power Company	$ (69,476,426)	0.060	$ (4,201,314)
Cmpc	Paper and pulp	$ (266,074,621)	0.026	$ (6,919,990)
Lan Chile	Transport Services	$ (249,046,603)	0.040	$ (9,856,794)
Cencosud	Commerce	$ (212,620,351)	0.050	$ (10,657,362)
Copec	Oil and Gas	$ (150,598,550)	0.087	$ (13,072,921)
Enersis	Power Company	$ (245,930,384)	0.080	$ (19,641,732)
Falabella	Commerce	$ (175,079,468)	0.114	$ (19,889,559)
Quinenco	Funds	$ (1,104,846,295)	0.019	$ (20,691,985)

There is no evidence of change. The productive companies are showing greater value destruction during the period of analysis.

5) Variable of direct influence to determine the economic value added:

Name	Total Asset	EVA
Quinenco	$ 29,471,929,913	$ (1,104,846,295)
Enersis	$ 15,108,404,607	$ (245,930,384)
Copec	$ 12,413,218,863	$ (150,598,550)
Antarchile	$ 12,015,804,424	$ 173,388,031
Lan Chile	$ 11,934,861,695	$ (249,046,603)
Cencosud	$ 10,193,972,349	$ (212,620,351)

Falabella	$	10,019,121,562	$	(175,079,468)
Cmpc	$	7,801,518,239	$	(266,074,621)
Security	$	6,999,833,438	$	(11,636,957)
Endesa	$	6,889,816,608	$	(69,476,426)
Minera	$	5,493,883,659	$	(84,296,380)
Cge	$	4,074,026,811	$	(23,516,906)
Aesgener	$	3,615,993,348	$	(43,843,246)
Colbun	$	3,333,491,081	$	(57,671,672)
Cap	$	3,087,498,311	$	(67,734,449)
Sqm	$	2,553,927,939	$	(36,537,339)
Sqm	$	2,553,927,939	$	(15,463,799)
Almendral	$	2,505,997,255	$	659,771
Entel	$	2,256,640,454	$	4,445,318
Andina	$	2,114,513,235	$	(17,490,815)

Relation between Investment and EVA	
Multiple correlation coefficient	0.820024184
Coefficient of determination R^2	0.672439662

There is a direct relationship between the policy of investment, measured by total assets, and the value destruction.

The bigger the size of the total assets, the greater is the destruction value of the company. The results show that the main sector with these characteristics is the industrial one.

Conclusion

The performance measurement to determine the economic value added of publicly held companies in Chile, with the exception of the industry of the banks, show us a direct relation to those companies with value creation and destruction.

The companies with greater value creation were the ones in the sector of basic services and pension fund administrators (AFPs). On the other hand, companies with value destruction are mainly companies in the production and retail business.

The EVA calculation is the difference between the income generated by the activities of the company and the cost of capital employed needed to generate such profit.

From this point of view, it is understandable to think in the differentiation between industrial sectors where value destruction could have come from a low operating income or from a high cost of invested capital. If the low operating income were the case, at a time when the economy showed signs of weakening in Chile, it is consistent to think that all the sectors of the

economy obtained low profits. For this reason, differentiation in the results of the present study is due to the other component of the equation of EVA: the cost of the invested capital.

At the same time this component depends on the total assets and the WACC, which leads us to conclude that the companies with negative EVA have a lot of fixed assets because of investment, typical from productive (investment in fixed assets), retail (investment in new sales), and maritime and air transport (high investments in the purchase of new aircraft and ships) companies.

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Appendices

Appendix 1: Economic Value Added

Name	Sector	EVA
Aguas	Basic Services	$ 111,084,369
Iam	Basic Services	$ 104,071,508
Pehuenche	Power Company	$ 22,379,643
Esval	Basic Services	$ 15,937,909
Provida	Funds	$ 15,678,741
Cuprum	Funds	$ 13,722,819
Ventanas	Transport Services	$ 11,299,375
Fasa	Commerce	$ 11,265,862
Habitat	Funds	$ 9,470,507
Banmedica	Health	$ 7,443,225
Blumar	Agro & Fishing	$ 6,486,192
Zofri	Commerce	$ 5,860,356
Salfacorp	Construction	$ 5,581,907
Enaex	Chemistry	$ 5,071,954
Volcan	Commerce	$ 4,682,136
Entel	Telecommunications	$ 4,445,318
Invermar	Agro & Fishing	$ 3,285,006
Pilmaiquen	Power Company	$ 3,244,101
Sintex	Others	$ 3,187,775
Indisa	Others	$ 1,261,462
Conchatoro	Food and Beverages	$ 1,153,056
Almendral	Finance and Insurance	$ 659,771
Enjoy	Others	$ 172,142

Appendix 2: Value Destruction

Nombre	Sector	EVA
Quinenco	Funds	-$ 1,104,846,295
Cmpc	Paper and Pulp	-$ 266,074,621
Lan Chile	Transport Servicesc	-$ 249,046,603
Enersis	Power Company	-$ 245,930,384
Cencosud	Commerce	-$ 212,620,351
Falabella	Commerce	-$ 175,079,468
Copec	Oil and Gas	-$ 150,598,550
Minera	Funds	-$ 84,296,380
Vapores	Transport Services	-$ 77,149,038
Endesa	Power Company	-$ 69,476,426
Cap	Steel & Metallurgy	-$ 67,734,449
Colbun	Power Company	-$ 57,671,672
Pasur	Funds	-$ 47,168,480
Nortegran	Funds	-$ 46,317,740

Aesgener	Power Company	-$	43,843,246
Masisa	Agro & Fishing	-$	39,963,220
Sqm	Mining	-$	36,537,339
Ecl	Power Energy	-$	33,306,594
Oro Blanco	Funds	-$	33,257,089
Calichera	Funds	-$	28,817,770
Parauco	Others	-$	28,052,748
Sigdo Koppers	Finance and Insurance	-$	26,122,263
Chilectra	Power Company	-$	24,501,019
Cge	Power Company	-$	23,516,906
Nuevapolar	Commerce	-$	22,879,841
Ripley	Commerce	-$	20,892,563
Invercap	Funds	-$	18,079,750
Andina	Food and Beverages	-$	17,490,815
Molymet	Chemistry	-$	17,459,128
Andina	Food and Beverages	-$	16,660,308
Socovesa	Construction	-$	16,126,902
Sqm	Mining	-$	15,463,799
Sonda	Software and Data	-$	13,919,485
Besalco	Construction	-$	13,680,311
Iansa	Food and Beverages	-$	12,362,957
Security	Others	-$	11,636,957
Banvida	Funds	-$	11,266,637
Invexans (Ex-Madeco)	Steel & Metallurgy	-$	10.439,664
Ctc	Telecommunications	-$	8,331,265
Paz	Others	-$	7,730,684
Cristales	Minerals no Metal	-$	6,996,564
Ccu	Food and Beverages	-$	6,532,354
Interocean	Transport Services	-$	6,484,884
Pucobre	Minería	-$	5,590,364
Marinsa	Funds	-$	5,451,575
Multifoods	Agro & Fishing	-$	5,198,647
Campos	Finance and Insurance	-$	4,944,699
Gasco	Oil and Gas	-$	4,914,511
Hipermarc	Agro & Fishing	-$	4,688,874
Cementos	Minerals no Metal	-$	4,601,399
San Pedro	Food and Beverages	-$	4,295,543
Cintac	Steel & Metallurgy	-$	3,397,464
Las Condes	Others	-$	3,081,543
Colocolo	Others	-$	3,061,513
Andromaco	Chemistry	-$	3,021,096
Soquicom	Commerce	-$	2,185,459
Duncanfox	Funds	-$	1,749,908
Tattersall	Others	-$	1,280,506
Edelpa	Chemistry	-$	1,008,532
Embonor	Food and Beverages	-$	983,480
Cic	Others	-$	607,599
Schwager	Agro & Fishing	-$	521,761
Azul Azul	Others	-$	208,474
Forus	Others	-$	207,146